



# APV II ASSEMBLY INSTRUCTIONS

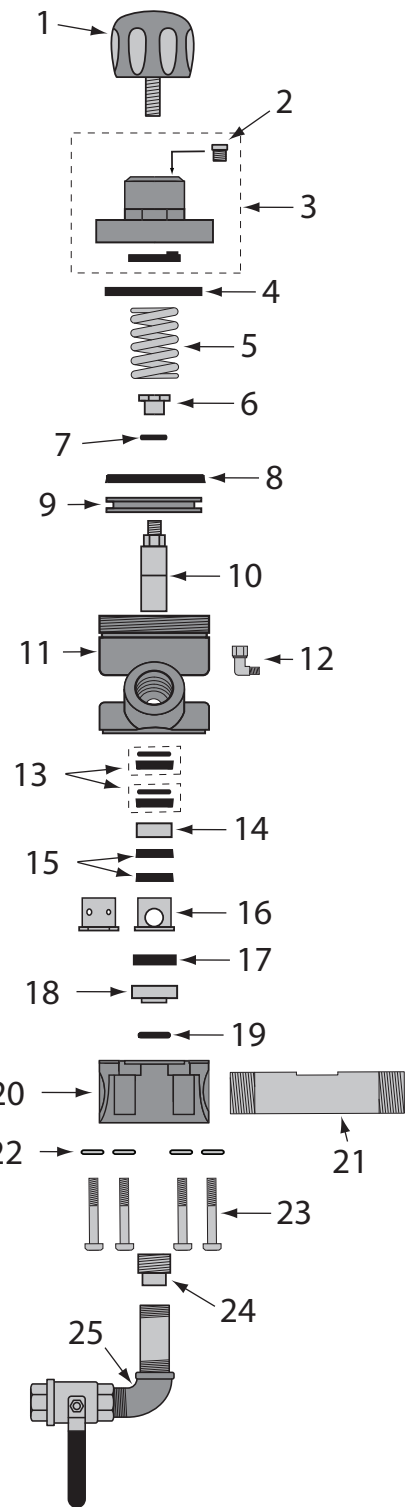
## Repair Kit - 888-2148-00099PB

APV II, REPAIR KIT W/SOLID TUNGSTEN CARBIDE SLEEVE, INCLUDES (1) # 8 & 10, (2) # 13, (2) # 15, (1) # 16, 17, 18 & 19

## Seal Kit - 888-2148-00098PB

APV II, SEAL KIT, SEALS ONLY, W/URETHANE SEAT, INCLUDES (1) # 8, (2) # 13 & 15, (1) # 17 & 19

APVII™ (Automatic Plunger Valve II)	
888-2148-006PB	APV II, 1" W/SOLID TUNGSTEN CARBIDE SLEEVE
888-2148-007PB	APV II, 1-1/4" W/SOLID TUNGSTEN CARBIDE SLEEVE
888-2148-008PB	APV II, 1-1/2" W/SOLID TUNGSTEN CARBIDE SLEEVE
888-2148-00099PB	APV II, REPAIR KIT W/SOLID TUNGSTEN CARBIDE SLEEVE, INCLUDES (1) # 8 & 10, (2) # 13, (2) # 15, (1) # 16, 17, 18 & 19
888-2148-00098PB	APV II, SEAL KIT, SEALS ONLY, W/URETHANE SEAT, INCLUDES (1) # 8, (2) # 13 & 15, (1) # 17 & 19
1	888-2148-00001PB APV II, KNOB (BLACK PIRATE BRAND)
2	888-2014-300PB VENT, 1/8"
3	888-2148-00002PB APV & APV II, CAP ASSEMBLY
4	888-2149-00019PB APV & APV II, BUMP RING
5	888-2149-00003PB APV & APV II, SPRING
6	888-2148-00015PB APV II, PLUNGER STOP (STAINLESS)
7	888-2148-00016PB APV II, NYLON WASHER
8	888-2148-00004PB APV & APV II, PISTON SEAL (GREEN URETHANE)
9	888-2148-00005PB APV II, PISTON
10	888-2148-00007PB APV II, PLUNGER (STAINLESS/SOLID TUNGSTEN CARBIDE)
11	888-2148-00009PB APV II, CYLINDER, W/1" NPT CLEANOUT
12	888-4203-50000PB SWIVEL 90°, 1/8"MNPT X 1/8"F
13	888-2148-00006PB APV & APV II, PLUNGER SEAL W/"O"-RING (CLEAR URETHANE)
14	888-2148-00017PB APV II, PLUNGER BUSHING (STAINLESS)
15	888-2148-30006PB APV II, PLUNGER SEAL W/O "O"-RING (CLEAR URETHANE)
16	888-2148-00013PB APV & APV II, SOLID TUNGSTEN CARBIDE SLEEVE
17	888-2149-32020PB APV & APV II, MULTI PORTED SLEEVE STAINLESS STEEL
18	888-2149-00010PB APV & APV II, URETHANE SEAT
19	888-2148-00014PB APV II, INSERT (STAINLESS)
20	888-2148-30011PB APV II, BASE W/CLEANOUT
21	888-2149-00615PB APV & APV II, PIPE NIPPLE 1" FEMALE x 1-1/2" MALE
22	888-2149-00715PB APV & APV II, PIPE NIPPLE 1-1/4" MALE x 1-1/4" MALE
23	888-2149-00815PB APV & APV II, PIPE NIPPLE 1-1/2" MALE x 1-1/2" MALE
24	888-7027-50302PB APV & APV II, FLAT WASHER 3/8" SAE (10 PACK)
25	888-7010-50755PB APV & APV II, BOLT, 4 PACK
26	888-3014-206PB APV II, PLUG, PIPE STAINLESS 1"
27	999-8403-00054PB APV II CLEANOUT BALL VALVE ASSY



## Complete Disassembly Instructions

- Loosen the 4 BOLTS(23) holding the BASE(20) to the CYLINDER(11) and remove the BASE(20). Be careful when removing the BASE(20) because the SLEEVE(16) can fall out of the CYLINDER(11) and break. (See Photo A)
- Remove the URETHANE SEAT(17), INSERT(18) and O-RING(19) from the BASE(20). (See Photo B)
- Slide the PIPE NIPPLE(21) out of the BASE(20) to remove it. (See Photo C)
- Remove the CAP(3) by unscrewing it counterclockwise using a wrench to expose the SPRING(5), BUMP RING(4), and PISTON ASSEMBLY(6-10). (See Photo D)
- Remove the BUMP RING(4) (See Photo E) and pull out the PISTON ASSEMBLY(6-10) by grabbing the PLUNGER STOP(6) with pliers. (See Photo F)
- Disassemble the PISTON ASSEMBLY(6-10) by removing the PISTON SEAL(8) with a pick tool being careful not to damage it. (See Photo G) Separate the PLUNGER(10), PLUNGER STOP(6), PISTON(9) and NYLON WASHERS(7) using 2 wrenches. (See Photo H)
- Remove the SLEEVE(16) from the bottom of the CYLINDER(11) carefully using a pick tool if necessary. (See Photo I)
- Carefully remove the first two PLUNGER SEALS(15) using a pick tool. Make sure not to damage them if they will be reused. (See Photo J)
- Remove the PLUNGER BUSHING(14). (See Photo K)
- Remove the second set of PLUNGER SEALS W/O-RINGS(13) using a pick tool again making sure not to damage them if they will be reused. (See Photo L)



Photo A



Photo B



Photo C



Photo D



Photo E



Photo F



Photo G



Photo H



Photo I

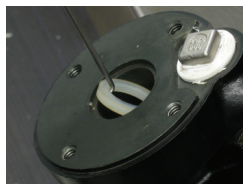


Photo J

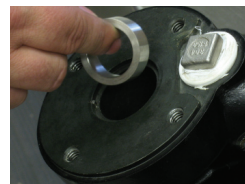


Photo K

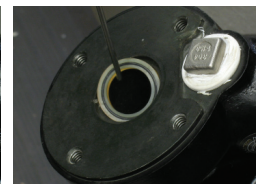


Photo L



Photo M



Photo N



Photo O



Photo P



Photo Q



Photo R



Photo S



Photo T



Photo U



Photo V



Photo W



Photo X



Photo Y



Photo Z



Photo AA



Photo BB

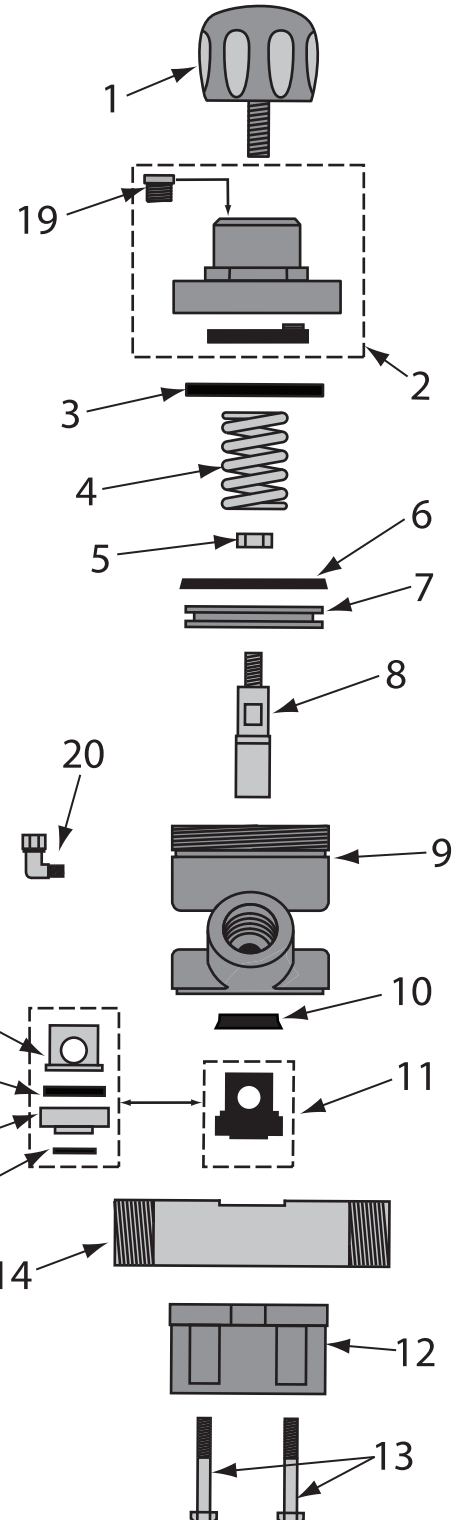
## Complete Assembly Instructions

1. Apply Threadlocker Blue to the threads on the PLUNGER(10). (See Photo M)
2. Assemble the Piston Assembly by stacking the PLUNGER(10), PISTON(9), NYLON WASHERS(7) (2 required) and PLUNGER STOP(6). Tighten the assembly with 2 wrenches being careful not to over-tighten and crush the washers. (See Photo N)
3. Install PISTON SEAL(8) with open side facing the PLUNGER(10). (See Photo O)
4. Lubricate the inner wall of the CYLINDER(11) with Anti-Seize Lubricant. (See Photo P)
5. Slide the PISTON ASSEMBLY(6-10) into the CYLINDER(11) until it bottoms out keeping it square with the side of the CYLINDER(11) so the PISTON ASSEMBLY(6-10) does not bind against the CYLINDER(11) wall. (See Photo Q)
6. Re-apply Anti-Seize to the CYLINDER(11) after inserting the PISTON ASSEMBLY(6-10). (See Photo R)
7. Insert the BUMP RING(4) into the CYLINDER(11) (015-2) and re-install the CAP(3) and SPRING(5), and tighten with a wrench. (See Photo S)
8. Install the first PLUNGER SEAL W/O-RING(13) by sliding it over the PLUNGER(10) with the open side of the seal first using a pick tool to help the outer edge into the CYLINDER(11). (See Photo T)
9. Press the PLUNGER SEAL W/O-RING(13) into the CYLINDER(11) using the SLEEVE(16) as far as it will go, then insert the second PLUNGER SEAL W/O-RING(13) following the same procedure. (See Photo U)
10. Insert the PLUNGER BUSHING(14) into the CYLINDER(11) and press into place using the SLEEVE(16). (See Photo V)
11. Install the two PLUNGER SEALS(15) without O-rings closed side first by inserting them one at a time around the PLUNGER(10) and pushing them each into place with the SLEEVE(16). (See Photo W)
12. Install the SLEEVE(16) into the CYLINDER(11) by aligning the notch in the SLEEVE(16) with the alignment pin in the CYLINDER(11) and pressing it firmly in place (See Photo X).
13. Insert the PIPE NIPPLE(21) into the BASE(20) aligning the flat area on the PIPE NIPPLE(21) with the opening on the BASE(20) (See Photo Y)
14. Install the INSERT(18), O-RING(19) and URETHANE SEAT(17) into the BASE(20) making sure the insert is flush with the BASE(20) and PIPE NIPPLE(21). (See Photo Z)
15. With the BASE(20) in one hand and holding the INSERT(18) and URETHANE SEAT(17) in place with the other hand, place the BASE(20) onto the CYLINDER(11). (See Photo AA)
16. Hand-tighten the BOLTS(23) that hold the BASE(20) to the CYLINDER(11), then using a wrench or socket, tighten them securely in an "X" pattern. (See Photo BB)





# ASSEMBLY INSTRUCTIONS



## APV (Automatic Plunger Valve)

	888-2149-006PB	APV, 1", W/T C SLEEVE
	888-2149-106PB	APV, 1", W/URETHANE SLEEVE
	888-2149-007PB	APV, 1-1/4", W/T C SLEEVE
	888-2149-107PB	APV, 1-1/4", W/URETHANE SLEEVE
	888-2149-008PB	APV, 1-1/2", W/T C SLEEVE
	888-2149-108PB	APV, 1-1/2", W/URETHANE SLEEVE
	888-2149-00099PB	APV, REPAIR KIT W/T C SLEEVE, INCLUDES # 6, 8, 10, 15, 16, 17 & 18
	888-2149-00098PB	APV, SEAL KIT, SEALS ONLY W/URETHANE SEAT, INCLUDES # 6, 10, 15 & 17
	888-2149-10099PB	APV, REPAIR KIT W/URETHANE SLEEVE, INCLUDES # 6, 8, 10 & 11
	888-2149-10098PB	APV, SEAL KIT, SEALS ONLY W/URETHANE SLEEVE, INCLUDES 6, 10, & 11
1	888-2149-00001PB	APV, KNOB
2	888-2148-00002PB	APV & APV II, CAP ASSEMBLY
3	888-2149-00019PB	APV & APV II, BUMP RING
4	888-2149-00003PB	APV & APV II, SPRING
5	888-2149-00008PB	APV, NUT
6	888-2149-00004PB	APV, PISTON SEAL
7	888-2149-00005PB	APV, PISTON
8	888-2149-00007PB	APV, TUNGSTEN CARBIDE, PLUNGER
9	888-2149-00009PB	APV, CYLINDER
10	888-2148-00006PB	VALVE, PLUNGER SEAL
11	888-2149-10013PB	APV, SLEEVE, URETHANE
12	888-2149-00011PB	APV, BASE
13	888-7010-50755PB	APV & APV II, BOLT, 4 PACK
14	888-2149-00615PB	APV & APV II, PIPE NIPPLE 1" FEMALE x 1-1/2" MALE
	888-2149-00715PB	APV & APV II, PIPE NIPPLE 1-1/4" MALE x 1-1/4" MALE
	888-2149-00815PB	APV & APV II, PIPE NIPPLE 1-1/2" MALE x 1-1/2" MALE
15	888-2149-00018PB	APV & APV II, O-RING
16	888-2149-00014PB	APV, INSERT
17	888-2149-00010PB	APV & APV II, URETHANE SEAT
18	888-2148-00013PB	APV & APV II, SOLID TUNGSTEN CARBIDE SLEEVE
	888-2149-32020PB	APV & APV II, MULTI PORTED SLEEVE STAINLESS STEEL
19	888-2014-300PB	VENT, 1/8"
20	888-4203-50000PB	SWIVEL 90°, 1/8" MNPT X 1/8" F